#### DOCUMENT RESUME

ED 097 533 CE 002 304

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TITLE Work Motivation and the Concept of Organizational

Climate. Research Report No. 4.

INSTITUTION Maryland Univ., College Park. Dept. of Psychology. SPONS AGENCY Office of Naval Research, Washington, D.C. Personnel

and Training Research Programs Office.

PUB DATE May 74

NOTE 20p.: For related documents, see CE 002 299-303

EDRS PRICE MF-\$0.75 HC-\$1.50 PLUS POSTAGE

DESCRIPTORS \*Behavior: Concept Formation: Individual

Characteristics; \*Interaction; Literature Reviews; \*Motivation; \*Organizational Climate; Organizational

Theories: Relationship: \*Work Attitudes; Work

Environment

IDENTIFIERS Organizational Behavior

#### ABSTRACT

Although the hypothesis that behavior is a function of the person in interaction with his environment is a very old one, an overview of current theory and research on work motivation and job satisfaction reveals an emphasis on either one or the other sets of variables, at the expense of investigating systematically the interaction between personal and environmental variables. The literature on the concept of organizational climate and its relationship to organizational behavior is briefly reviewed in an attempt to find a framework within which the interaction hypothesis can be systematically investigated. The lack of specific conceptualization concerning organization climate and the multitude of noncomparable operational definitions of organizational climate is noted. The paper argues that this state of affairs makes the climate concept untractable and greatly distracts from the potential that this concept has for clarifying the study of the interaction hypothesis. It is suggested that the relatively explicitly stated expectancy models of motivation might not only help to provide conceptual clarity to the concept of organizational climate, but might also provide a framework within which the person-environment interaction hypothesis can be investigated. Such an approach should . also increase our understanding of the work motivation process. (Author)



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WORK MOTIVATION AND THE CONCEPT OF ORGANIZATIONAL CLIMATE

H. PETER DACHLER

Research Report No. 4

May, 1974

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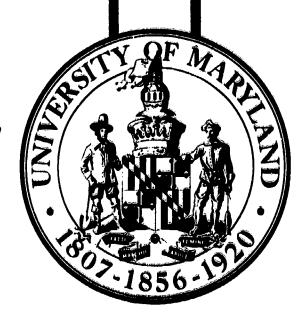
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The preparation of this report was supported in part by the Personnel and Training Research Programs, Psychological Sciences Division, Office of Naval Research under Contract No. N00014-67-A-0239-0025, Contract Authority Identification Number, NR 151-350, Benjamin Schneider and H. Peter Dachler, Principal Investigators.

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SECURITY LLASSIFICATION OF THIS PAGE (When Date Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
Research Report No. 4	2. GDVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle)  Work Motivation and the Concept of Organizational Climate  7. Author(a)		5. TYPE OF REPORT & PERIOD COVERED Interim Technical Report
		6. PERFORMING ORG, REPORT NUMBER  8. CONTRACT OR GRANT NUMBER(*)
H. Peter Dachler		N00014-67-A-0239-0025
9. PERFORMING ORGANIZATION NAME AND ADDRESS Department of Psychology University of Maryland College Park, Maryland 20742	***************************************	10. PROGRAM ELEMENT. PROJECT. TASK AREA & WORK UNIT NUMBERS 61153N; RR 042-04; RR 042-04-02; NR 151-350
Personnel and Training Research Programs Office of Naval Research (Code 458) Arlington, Virginia 22217		12. REPORT DATE  May, 1974  13. NUMBER OF PAGES  12
14 MONITORING AGENCY NAME & ADDRESS(II differen	nt from Controlling Office)	15. SECURITY CLASS. (of this report)  Unclassified  15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abetract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Presented for an invited workshop, 10th Annual Conference of the Eastern Academy of Management

19 KEY WORDS (Continue on reverse elde if necessary and identify by block number)

Organizational climate, Expectancy-instrumentality theory, Construct validation, Parson-environment interaction

20. ABSTRACT (Continue on reverse elde if necessary and identify by block number)

Although the hypothesis that behavior is a function of the person in interaction with his environment is a very old one, an overview of current theory and research on work motivation and job satisfaction reveals an emphasis on either one or the other sets of variables, at the expense of investigating systematically the interaction between personal and environmental variables.

The literature on the concept of organizational climate and its relational ship to organizational behavior is briefly reviewed in an attempt to find a



framework within which the interaction hypothesis can be systematically investigated.

The lack of specific conceptualization concerning organization climate and the multitude of non-comparable operational definitions of organizational climate is noted. The paper argues that this state of affairs makes the climate concept untractable and greatly distracts from the potential that this concept has for clarifying the study of the interaction hypothesis.

It is suggested that the relatively explicitly stated expectancy models of motivation might not only help to provide conceptual clarity to the concept of organizational climate, but might also provide a framework within which the person-environment interaction hypothesis can be investigated. Such an approach should also increase our understanding of the work motivation process.



# WORK MOTIVATION AND THE CONCEPT OF ORGANIZATIONAL CLIMATE

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There is an old hypothesis, popularized by Lewin (1938), and now so widely accepted as to be a truism, which states that behavior is a function of the person in interaction with his environment. Yet in looking over the research efforts concerning behavior in organizations, one is amazed by a fairly distinct separation between researchers who seek understanding of organizational behavior by focusing upon person characteristics and those who focus upon the characteristics of the environment. Although there is certainly a lot to learn about the effects of individual attributes on behavior in organizations, and granting that peoples' environments (whether it be the organizational environment or a person's larger life space) contain numerous perplexing attributes who's effects on behavior we would like to understand, one could with rightful indignation ask: "where has all the interaction gone?". Within the domain of theories of organizations, Lichtman & Hunt (1971) have presented very convincing arguments that the most useful research approaches to the understanding of organizations are those which are based on the assumption that behavior in organizations is the outcome of the interaction of personalistic and structural variables. This paper will discuss the implications of the interaction point of view for work motivation, organizational climate and related research.



Paper presented for an invited workshop: theory and research in work motivation: current and future trends, 10th Annual Conference of the Eastern Academy of Management, Philadelphi, 1973.

The comments, suggestions, and often "uncomfortable" questions raised by Ben Schneider are gratefully acknowledged.

Although most of the theories of work motivation have incorporated the hypothesis that motivated behavior is a function of personal psychological entities (motives, needs, values, beliefs, personal goals, interests, drives, habits) as well as environmental properties (incentives, work outcomes schedules of reinforcements, goal difficulty, task characteristics, supervisor characteristics, organizational characteristics), research on work motivation and job satisfaction has too often concentrated on either one or the other sets of variables. Thus, job enrichment, job enlargement, power equalization, and management by objectives approaches to employee motivation, for example, have too often relied on assessing and manipulating various dimensions in the organization members' work environment, assuming that certain motive or need states and personality characteristics exist universally and that these personal psychological states have a bearing on the environmental characteristics which are being assessed or manipulated. The tenuousness of these assumptions have already been documented among others by Strauss (1963), Hulin and Blood (1968) and Hulin (1971). Furthermore, by concentrating on assessment and manipulation of environmental variables which are assumed to interact with various personal psychological states, without systematically looking at the interaction of the two sets of variables, we are destined to continue having only a vague and oversimplified scientific definition of the concept of work motivation.

Just like some researchers interested in work motivation seem to emphasize environmental characteristics at the expense of the personalistic variables, there are too many motivation researchers who focus nearly exclusively on personalistic variables, without including into their research strategies ways of assessing and understanding the interaction of their personalistic variables with specific environmental dimensions in producing certain behavioral outcomes. For example, one of the currently most popular motivation theories, Valence—Instrumentality-Expectancy (VIE) theory (Campbell, Dunnette, Lawler & Weick,



1970; Dachler & Mobley, 1973; Lawler, 1971; Mitchell & Biglan, 1971; Porter & Lawler, 1968; Vroom, 1964), has been tested nearly exclusively by assessing personal beliefs, values, and anticipated satisfactions. This research emphasis has occurred even though VIE theory has explicitly assumed that perceptions of Expectancy and Instrumentality as well as anticipated satisfaction are a consequence of the interaction between, on the one hand, existing and experienced environmental conditions and events (Dachler & Mobley, 1973); Graen, 1969; Vroom, 1964) and, on the other hand, personal characteristics such as peoples values and needs (Vroom, 1964), their self-esteem (Lawler, 1971) and perceived ability and skills (Dachler & Mobley, 1973), as well as personality traits like Internal-External Control of Reinforcement (Lawler, 1971) and maximizing versus satisfying decision strategies (March & Smmon, 1958). There exists only a very few studies (e.g. Graen, 1969) which explicitly attempted to assess the degree to which manipulated environmental conditions were related to the perceptions of instrumentality and expectancy.

In this connection it should be remembered that it is not always clear what is implied by the term <u>interaction</u> between personal and environmental characteristics. In some instances, interaction is used in the Analysis of Variance sense. Thus a given amount of some value or need makes relevant certain environmental dimensions but not others, in producing certain emotional or attitudinal reactions (Locke, 1969). On the other hand, Graen's (1969) study and his concept of boundary conditions implies both a main effect as well as a moderating effect of certain environmental conditions and events on perceptions of instrumentality and expectancy and their relation to overt behavior. In the present paper the term interaction is used to imply both the traditional meaning in the Analysis of Variance sense as well as the idea that environmental conditions and events may be a direct influence on certain personal psychological states which in turn have a bearing on overt behavior.



In summary, our ability to explicitly define the meaning of the construct of work motivation has been impaired by researchers emphasis on the main effects of personal and environmental characteristics at the expense of systematically investigating the interactions and interdependence of these two sets of variables (Schein, 1965).

In an extensive construct validation study of VIE theory in two organizations Dachler and Mobley (1973) found that the VIE theory predictions were consistently supported in the organization which appeared to provide conditions that allowed for accurate perceptions about the consequences of alternative performance levels and about the likelihood of engaging in the various alternative performance levels. The VIE hypotheses were not consistently supported in the organization which appeared to provide conditions which hindered accurate perceptions about the consequences of alternative behaviors and expectancies concerning those behaviors. Although this study, unfortunately, did not include any direct measures of these organizational conditions, personal observations of and experiences with the environmental conditions in the two organizations provided some clues which tended to support the conclusion that a wide variety of organizational characteristics may serve as environmental constraints, limiting motivation for certain levels of performance and serving as conditions which either impede the accuracy or realism of employee perceptions and conclusions, or which generally make it difficult to "rationally" choose among various behavioral alternatives all of which have equally likely desirable or undesirable consequences.

These conclusions point to the importance of incorporating into VIE theory of motivation the effects of both actual environmental conditions as well as individual's perceptions of these environmental conditions, in order to more adequately define the construct of motivation (Miner & Dachler, 1973).



In the search for a systematic approach to assessing those organizational conditions which may have relevance for clarifying the psychological meaning of the still ambiguous VIE definition of work motivation the concept of organizational climate (Forehand, 1968; Forehand & Gilmer, 1964; Litwin & Stringer, 1968; Schneider & Bartlett, 1968; Tagiuri, 1968) appeared to provide a good starting point. Although there seems to be as many definitions of this concept as there are researchers writing about organizational climate, the central idea underlying the climate variable concerns the invariant, relatively enduring quality of the internal organizational environment which is molar rather than molecular, which according to some authors (e.g. Forehand & Gilmer, 1964) exists outside of the actor and according to most authors (e.g. Schneider, 1973) exists as perceptions organization members have of the organization, and which has potential behavioral consequences. These central themes which seem to underly the writings of climate researchers are obviously relevant to the problem of assessing the interaction between the environment, as well as the perceptions of it, with the motivational variables of VIE theory. Unfortunately, however, the literature on organizational climate reveals a paucity of systematic conceptualization concerning the attributes and thus the psychological meaning of the climate term. As Cronbach and Meehl (1955) put it "...to make clear what something is means to set forth the laws in which it occurs (p. 290)." Time constraints do not allow a review of the climate literature and therefore a documentation of what Guion (1973) refers to as "the fuzziest concept to come along in some time." But some general comments regarding the state of climate research need to be made in order to illustrate the importance of explicit conceptualization.



As is true in the development of any psychological construct, we start with some vague assumptions about the properties of a construct which are based upon our own hunches, on what we generally know or believe to be true, and what seems to be suggested by the relevant literature (Hyman, 1964). This is essentially what some of the early researchers on organizational climate have done (Lewin, 1951; Lewin, Lippitt & White, 1939; Litwin & Stringer, 1968; Schneider & Bartlett, 1968; Tagiuri & Litwin, 1968). For example, Lewin (1951) talks about the "atmosphere" of the field and places that concept as a functional link between the person and the environment, thus separating the concept of atmosphere or climate from the actual environment "out there". Tagiuri (1968) discusses various basic problems with environmental concepts. His list includes:

- (a) distinguishing between the objective and subjective environment
- (b) distinguishing between the person and the situation
- (c) determining what aspects of the environment need to be specified
- (d) identifying the structures and dynamics of the environment

  All of these questions clearly have to be resolved in any conceptualization of climate and have to therefore be reflected in the operational definitions of the climate variable. However, Tagiuri (1968) in his conclusion states that "it is possible to approach the problem [of climate] systematically and empirically through somewhat arbitrary operational definitions". It seems that researchers of climate have too often taken Tagiuri's advice too literally. Thus many climate studies have concentrated on taxonomies of the environment or climate factors which have yielded a truly amazing number of different sets of dimensions (see Campbell, Dunnette, Lawler & Weick, 1970) which vary not only in numbers of dimensions but in the psychological entities that they refer to or seem relevant to. A comparison of the operational definitions of climate which underly the various dimensions uncovered by these studies makes it impossible to decide whether climate is a satisfaction construct, a motivational



construct, a perceptual phenomenon, or an index of the actual environment (see Guion, 1973). One cannot help get the feeling from these studies that climate is truly a construct embracing all of organizational psychology. It seems a nearly impossible task, and a task with little likelihood of providing useful psychological insights, to measure or classify every conceivable aspect of the environment, especially if one is not clear whether one is assessing the perceptions of the environment which employees have or the actual properties of the environment. Schneider (1973) correctly argues that we have to ask the question "climate for what?". In other words, there has to be some criterion which specificies what aspects of this amorphous entity "climate" need to be assessed, a question which Tagiuri (1968) and others have raised some time ago.

A number of researchers have looked at the relationships between what they have operationally defined as climate and organizational behavior (e.g. Friedlander & Greenberg, 1971; Pritchard & Karasick, 1973) or the extent to which climate moderates the relationship between personal variables and performance (e.g. Frederiksen, 1966; Andrews, 1967). However, although some of the findings are very interesting and hint at exciting and potentially crucial properties of the concept of climate, the operational definitions are often so arbitrary [to use Tagiuri's (1968) term] and the hypotheses which are being tested are often so devoid of any systematic tie to an explicitly stated theoretical foundation, that one finds it difficult to obtain much of a sense of research convergence on the psychological meaning of the concept of climate. If climate means many different things, why do we use one term to characterize all the meanings?

In summary, it is suggested that, although in using a new concept it is often necessary to explore in many directions with various methodologies, we might be at a point where a better convergence of research could be attained



by more systematic conceptualization of the concept of organizational climate, and by using the methodological strategies inherent in construct validation (Cronbach & Meehl, 1955). Litwin and Stringer (1968) have already provided an interesting example of this approach. They cogently argue that: "If the concept of organizational climate is to demonstrate real value in the understanding and explanation of behavior in organizations, it must be integrated with the kinds of theories of organizational behavior that have evolved and are in current use (p. 40)". Thus an essential starting point for the definition and assessment of organizational climate is the development of a theoretical network which specifies the properties of the organizational climate concept and which ties these properties causally to cognitions and behaviors of organization members. In view of the fact that VIE theory of motivation is a relatively explicitly stated theory of work motivation, it is suggested that it might provide an excellent vehicle which can be used to analyze the environmental conditions (both as perceived by organization members as well as conditions existing "in reality") which may be interdependent and interacting with motivational and goal setting variables.

For example, perceptions about the goal facilitating or blocking behaviors of supervisors and co-workers might affect instrumentality and expectancy perceptions (Hammer & Dachler, 1973). Similarly, Frederiksen's (1966) concept of a consistent climate may well be directly interpretable with the VIE theory framework. Perceptions about the reward orientation and the consistency with which the organization ties rewards to specific behavioral alternatives may have a bearing on the degree to which VIE perceptions relate to certain behaviors (Campbell & Beaty, 1971). Furthermore, it is possible to look at objective indices of the environment, such as size, number of organizational levels, existence of incentive plans, amount of training, frequency of changes in job assignments, and existence of multiple supervision, all of which might have a



bearing on the accuracy and realism with which organization members form beliefs about instrumentalities and expectancies, as well as on the realisticness of the goals employees may set for themselves.

In short, the framework of the VIE theory may allow the examination of a subset of the objective and subjective environment which has meaning through the hypothesized connection to the VIE theory constructs and which can be tested by systematically researching the arrays of hypotheses emergining from this theoretical network. Such an approach would not only provide some conceptual clarity to the concept of organizational climate, but might also provide some much needed answers to the question of the person - anvironment interaction as well as increase the conceptual clarity of the concept of motivation.



#### References

- Andrews, J. D. W. The achievement motive and advancement in two types of organizations. <u>Journal of Personality and Social Psychology</u>, 1967, 6
- behavior, performance, and effectiveness. New York: McGraw-Hill, 1970.
- Campbell, J. P., & Beaty, E. E. Organizational climate: Its measurement and relationship to work group performance. Paper presented for symposium on organizational climate, G. A. Forehand chairman. 19th Annual Convention of the American Psychological Association, Washington, D.C., 1971.
- Cronbach, L. J., & Meehl, P. B. Construct validity in psychological tests.

  Psychological Bulletin, 1955, 52, 281-302.
- Dachler, H. P., & Mobley, W. H. Construct validation of an expectancy-instrumentality-task goal model of work motivation: Some theoretical boundary conditions. Journal of Applied Psychology, Monograph, 1973, 58, 397-418.
- Forehand, G. A. On the interaction of persons and organization. In R. Tagiuri and G. Litwin (Eds.). Organizational climate: Exploration of a concept.
- Forehand, G. A. & Gilmer, B. Er. ironmental variation in studies of organizational behavior. Psychological Bulletin, 1964, 62, 361-382.
- Frederiksen, B. Some effects of organizational climates on administrative performance. Research Memorandum RM-66-21, Educational Testing Service, . 1966.
- Friedlander, F. & Greenberg, S. Effect of job attitudes, training, and organizational climate on performance of the hard-core unemployed.

  Journal of Applied Psychology, 1971, 55, 287-295.



- Graen, G. B. Instrumentality theory of work motivation: Some experimental results and suggested modifications. <u>Journal of Applied Psychology</u>, 1969, <u>53</u> (2), 1-25.
- Guion, R. M. A note on organizational climate. <u>Organizational Behavior and</u>
  Human Performance, 1973, <u>9</u>, 120-125.
- Hammer, T. H. & Dachler, H. P. The process of supervision in the context of motivation theory. Working paper, University of Maryland, 1973.
- Hulin, C. L. Individual differences and job enrichment the case against general treatments. In J. R. Maher (Ed.). New perspectives in job enrichment. New York: Van Nostrand Reinhold, 1971.
- Hulin, C. L. & Blood, M. R. Job enlargement, individual differences, and worker responses. <u>Psychological Bulletin</u>, 1968, <u>69</u>, 41-55.
- Hyman, R. The nature of psychological inquiry. Englewood Cliffs: Prentice-Hail, 1964.
- Lawler, E. E., III. <u>Pay and organizational effectiveness: A psychological</u> view. New York: McGraw-Hill, 1971.
- Lewin, K. The conceptual representation and the measurement of psychological forces. Durham, North Carolina: Duke University Press, 1938.
- Lewin, K. Field theory in social science. New York: Harper & Row, 1951.
- Lewin, K. R., Lippitt. R., & White, R. K. Patterns of aggressive behavior in experimentally created "social climates". <u>Journal of Social Psychology</u>, 1939, <u>10</u>, 271-299.
- Lichtman, C. M. & Hunt, R. G. Personality and organization theory: A review of some conceptual literature. <u>Psychological Bulletin</u>, 1971, <u>76</u>, 271-294.
- Litwin, G. H. & Stringer, R. A., Jr. <u>Motivation and organizational climate</u>.

  Boston: Harvard University Press, 1968.



- Locke, E. A. What is job satisfaction? <u>Organizational Behavior and Human</u>
  <u>Performance</u>, 1969, <u>4</u>, 309-336.
- March, J. G. & Simon, H. A. Organizations. New York: Wiley, 1958.
- Miner, J. B. & Dachler, H. P. Personnel attitudes and motivation. <u>Annual</u>
  Review of Psychology, 1973, 24, 379-402.
- Mitchell, T. R. & Biglan, A. Instrumentality theories: Current uses in psychology. <u>Psychological Bulletin</u>, 1971, 76, 432-454.
- Porter, L. W. & Lawler, E. E., III. <u>Managerial attitudes and performance</u>. Homewood, III.: Irwin-Dorsey, 1968.
- Pritchard, R. D. & Karasick, B. W. The effects of organizational climate on managerial job performance and job satisfaction. <u>Organizational Behavior</u> and <u>Human Performance</u>, 1973, 9, 126-146.
- Schein, E. H. <u>Organizational psychology</u>. Englewood Cliffs, N.J.: Prentice-Hall, 1965.
- Schneider, B. The perceived environment: Organizational climate. Paper presented at the Annual Meeting of the Midwestern Psychological Association, .

  Chicago, 1973.
- Schneider, B. & Bartlett, C. J. Individual differences and organizational climate, I: The research plan and questionnaire development. <a href="Personnel">Personnel</a> Psychology, 1968, 21, 323-333.
- Strauss, G. Some notes on power-equalization. In H. J. Leavitt (Eds.). The social science of organizations. Englewood Cliffs: Prentice-Hall, 1963.
- Tagiuri, R. The concept of organizational climate. In R. Tagiuri and G. Litwin (Eds.). Organizational climate: Exploration of a concept. Boston:

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- Vroom, V. H. Work and motivation. New York: Wiley, 1964.



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